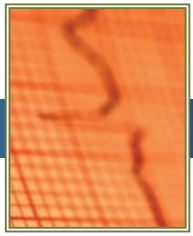
Digital Blood Pressure Monitor

Advanced Blood Pressure Monitors



Models 6021, 6022, 6023

User's Manual

PLEASE NOTE:
THIS MEDICAL INSTRUMENT MUST BE USED ACCORDING TO INSTRUCTIONS TO ENSURE ACCURATE READINGS.

Questions?
Call ADC toll free at 1-800-232-2670

ADC®
AMERICAN DIAGNOSTIC CORPORATION

A Special Thank You...

Thank you for choosing an ADC® AdvantageTM blood pressure instrument. We're proud of the care and quality that goes into the manufacture of each and every item that bears our name. Only the finest materials are used to assure you of a timeless instrument designed for optimum performance.

You'll quickly appreciate the results, for you now own one of the finest digital blood pressure instruments that money can buy.

With proper care and maintenance, your ADC® AdvantageTM automatic blood pressure monitor is sure to provide you with many years of dependable service. Please read the following instructions and general information which will prove helpful in allowing you to enjoy your ADC® product.

Advantages of Digital

In hospitals and physician's offices throughout the world, where accuracy and dependability are critical, ADC® professional diagnostic products are the instruments of choice.

Now you too can enjoy the benefits of ADC® engineering and quality in the home. This feature rich instrument was designed to simplify the measurement of blood pressure and pulse rate at home and deliver consistent, dependable results.

Your ADC® AdvantageTM digital blood pressure monitor is a fully automatic digital blood pressure measuring device for use on the upper arm. It enables very fast and reliable measurement of the systolic and diastolic blood pressure as well as the pulse by way of the oscillometric method. This device offers clinically proven accuracy and has been designed to be user friendly.

Read this booklet thoroughly before attempting to use your new ADC® AdvantageTM Digital Blood Pressure Monitor.

Thank you for your patronage. It is indeed our pleasure to serve you.

Sincerely,
American Diagnostic Corp.

Introduction and Intended Use

This manual is for AdvantageTM (6021), AdvantageTM PLUS (6022), and AdvantageTM ULTRA (6023) models. To find the model number of your device, look on the rating label located on the underside of the unit.

Your blood pressure monitor with ADC® Averaging Mode, Irregular Heartbeat Detection, and PC Link Blood Pressure Analyzer Software (6023 model only) is a fully automatic digital blood pressure measuring device for use by adults on the upper arm at home or in your doctor's/nurse's office. It enables very fast and reliable measurement of systolic and diastolic blood pressure as well as pulse through the oscillometric method. This device offers clinically proven accuracy and has been designed to be user friendly.

Before using, please read this instruction manual carefully and then keep it in a safe place. Please contact your doctor for further questions on the subject of blood pressure and its measurement.

Remember…

- Only a healthcare professional is qualified to interpret blood pressure measurements. This device is NOT intended to replace regular medical checkups.
- It is recommended that your physician review your procedure for using this device.
- Blood pressure readings obtained by this device should be verified before prescribing or making adjustments to any medications used to control hypertension. Under no circumstances should YOU alter the dosages of any drugs prescribed by your doctor.
- This monitor is intended for use by adults only. Consult with a physician before using this in-

strument on a child.

- In cases of irregular heartbeat (Arrhythmia), measurements made with this instrument should only be evaluated after consultation with your doctor.
- Familiarize yourself with the section titled "Important Information on Blood Pressure and its Measurement". It contains important information on the dynamics of blood pressure readings and will help you to obtain the best results.

NOTE! This device contains sensitive electronic components. Avoid strong electrical or electromagnetic fields in the direct vicinity of the device (e.g. mobile telephones, microwave ovens) during use. These can lead to erratic results.

Do not attempt to service or repair this device yourself. Should a malfunction occur, refer to page 23 of this booklet for service information.

Warnings and Precautions ⚠

Warning: The device contains sensitive electronic components. Avoid strong electrical or electromagnetic fields in the direct vicinity of the device (e.g. mobile telephones, microwave ovens). These can lead to temporary impairment of the measuring accuracy.

Warning: Use of this instrument on patients under dialysis therapy or on anticoagulant, antiplatelets, or steroids could cause internal bleeding.

Warning: Do not use cuffs, AC adapters or batteries other than those included with this product or replacement parts supplied by the manufacturer.

Warning: This system may fail to yield specified measurement accuracy if operated or stored in temperature or humidity conditions outside the limits stated in the specifications section of this manual.

Warning: This product may contain a chemical known to the state of California to cause cancer, birth defects, or other reproductive harm.

Caution: To avoid any possibility of accidental strangulation, keep this unit away from children and do not drape tubing around your neck.

Caution: The standard material used for the bladder and tubing is latex-free.

Attention: Self-measurement means control, not diagnosis or treatment. Unusual values must always be discussed with your doctor. Under no circumstances should you alter the dosages of any drugs prescribed by your doctor.

Attention: The pulse display is not suitable for checking the frequency of heart pacemakers!

Attention: In cases of irregular heartbeat, measurements made with this instrument should only be evaluated after consultation with your doctor.

Note: To obtain the greatest accuracy from your blood pressure instrument, it is recommended that the instrument be used within a temperature range of 50°F (10°C) to 104°F (40°C), with a relative humidity range of 15-90% (non-condensing).

2. Important Information on Blood Pressure and its Measurement

2.1. How does high or low blood pressure arise?

Your level of blood pressure is determined in the circulatory center of the brain and adjusts to a variety of situations through feedback from the nervous system. To adjust blood pressure, the strength and speed of the heart (Pulse), as well as the width of circulatory blood vessels is altered. Blood vessel width is controlled by fine muscles in the blood vessel walls.

Your level of arterial blood pressure changes periodically during heart activity: During the “blood ejection” (Systole) the value is highest (systolic blood pressure value). At the end of the heart’s “rest

period" (Diastole) pressure is lowest (diastolic blood pressure value).

Blood pressure values must lie within certain normal ranges in order to prevent particular diseases.

2.2. Which values are normal?

Blood pressure is very high if your diastolic pressure is above 90 mmHg and/or your systolic blood pressure is over 160 mmHg, while at rest. In this case, please consult your physician immediately. Long-term values at this level endanger your health due to continual damage to the blood vessels in your body.

Category	**Systolic** (mmHg)	**Diastolic** (mmHg)
Normal	<120	<80
Pre-Hypertension	120-139	80-89
Hypertension		
Stage 1 Hypertension	140-159	90-99
Stage 2 Hypertension	>160	>100

If your systolic blood pressure values are between 140 mmHg and 159mmHg and/or the diastolic blood pressure values between 90 mmHg and 99mmHg, consult your physician. Regular self-checks are necessary.

If you have blood pressure values that are too low, (i.e., systolic values under 105mmHg and/or diastolic values under 60 mmHg), consult your physician.

Even with normal blood pressure values, a regular self-check with your blood pressure monitor is recommended. You can detect possible changes in your values early and react appropriately.

If you are undergoing medical treatment to control your blood pressure, keep a record of values along with time of day and date. Show these values to your physician. Never use the results of your measurements to independently alter the drug doses prescribed by your physician.

Which values are normal?

The following standards for assessing high blood pressure (without regard to age) have been established by the U.S. National Institutes of Health JNC7, 2003.

Further information

- If your values are mostly normal under resting conditions but exceptionally high under conditions of physical or psychological stress, it is possible that you are suffering from so-called "labile hypertension." Consult your doctor.
- Correctly measured diastolic blood pressure values above 120mmHg require immediate medical treatment.

2.3. What can be done if regular high or low values are obtained?

a) Consult your doctor.

b) Increased blood pressure values (various forms of hypertension) are associated with considerable health risks over time. Arterial blood vessels in your body are endangered due to constriction caused by deposits in the vessel walls (Arteriosclerosis). A deficient supply of blood to important organs (heart, brain, muscles) can result from arteriosclerosis. Furthermore, the heart will become structurally damaged with increased blood pressure values.

c) There are many different causes of high blood pressure. We differentiate between the common primary (essential) hypertension, and secondary hypertension. The latter group can be ascribed to specific organ malfunctions. Please consult your doctor for information about the possible origins of your own increased blood pressure values.

d) There are measures which you can take to reduce and even prevent high blood pressure.

These measures must be permanent lifestyle changes.

A) Eating habits

- Strive for a normal weight corresponding to your age. See your doctor for your ideal weight.
- Avoid excessive consumption of common salt.
- Avoid fatty foods.

B) Previous illnesses

- Consistently follow all medical instructions for treating illness such as:
- Diabetes (Diabetes mellitus or sugar diabetes)
- Fat metabolism disorder
- Gout

C) Habits

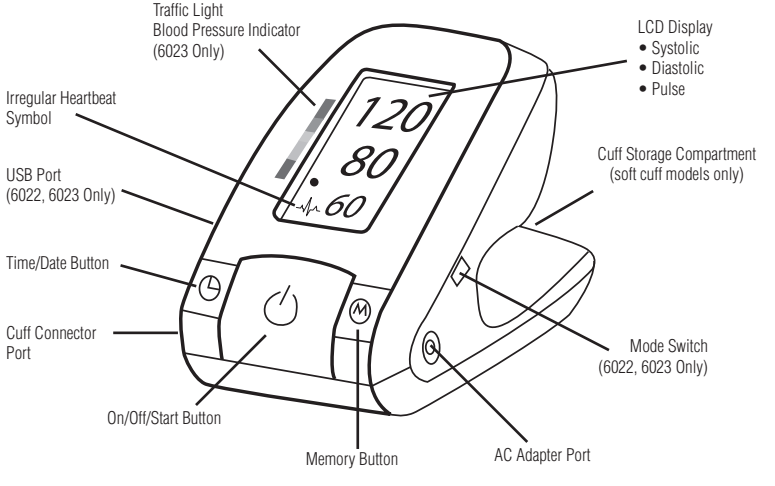
- Give up smoking completely.
- Drink only moderate amounts of alcohol.
- Restrict your caffeine consumption (coffee, tea, chocolate).

D) Your physical condition

- After a medical examination, and with your doctor's approval and direction; exercise.
- Choose sports which require stamina and avoid those which require strength.
- Avoid reaching the limit of your performance.
- With previous illnesses and/or an age of over 40 years, please consult your doctor before beginning your exercise routine. Speak with your doctor regarding the type and extent of exercise that is appropriate for you.

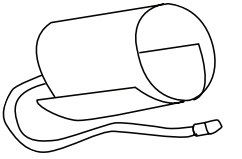
3. Components of your blood pressure monitor

a) Measuring unit (Each model has unique features that are not available on all models)



Each Model has its own specific cuff:

Model	Item Number	Description
6021	850-6013	D-bar Nylon Cuff
	For arm circumference 22 - 32 cm or (8.7" - 12.6")	
6022	850-6022	Wide Range Soft Cuff
	For arm circumference 22 - 41 cm or (8.7" - 16")	
6023	850-6023	Wide Range Rigid Cuff
	For arm circumference 22 - 46 cm or (8.7" - 18.1")	



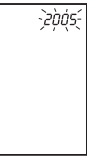
* If you ever need to buy a replacement cuff, use only ADC® brand.

Note: Arm circumference should be measured with a measuring tape in the middle of the relaxed upper arm. Do not force cuff connection into the opening. Make sure the cuff connection is not pushed into the AC adapter port. If the cuff is too small, call 1-800-232-2670 for further information. You may prefer to use one of our wrist type monitors.

4. Using your Monitor for the First Time

4.1 Activating the pre-installed batteries

Pull out the protective strips projecting from the battery compartment.



4.2 Setting the date and time

a) After the new batteries are activated, the year number flashes in the display. You can advance the year by pressing the Memory button. To confirm and set the year, press the Time/Date button.

b) You can now set the month using the Memory button. To confirm and set the month, press the Time/Date button.

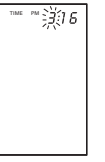
c) Follow the instructions above to set the day, hour and minutes.

d) Once you have set the last minute and pressed the Time/Date button, the date and time are set and the time is continously displayed.

e) If you want to change the date and time, press and hold the Time/Date button down for approx. 3 seconds, release, then hold again for another 3 seconds, and release - the year number will then flash. Now you can enter the new values as described above.

Memory Button

Time/Date Button



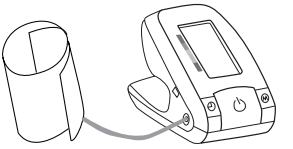
4.3. Cuff tube connection

Insert the cuff tube into the opening on the left side of the monitor indicated by the drawing of a cuff.

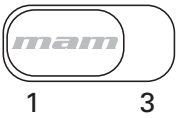
4.4. Select the Measuring Mode: Standard or

ADC® Averaging Mode Technology™ (6022, 6023 models only)

This instrument enables you to select either standard (standard single measurement) or ADC® Averaging Mode Technology™ (automatic triple measurement). To select standard mode, push the switch on the side of the instrument downward to



Position “1” and to select Averaging Mode, upwards to Position “3”. If you select 1 then only one measurement will be taken. If you select 3, the unit will inflate and deflate three times resulting in one final average measurement.



4.5. Select the User (6022, 6023 models only)

This blood pressure monitor is designed to store 99 measurements for each of two users. Before taking a measurement, be certain that the correct user has been selected.

a) With the unit off, press and hold the Time/Date button for 3 seconds until the user icon in the upper left corner of the LCD screen flashes.
b) Press the Memory button to toggle between users.
c) Press the On/Off/Start button to make your selection.

4.6. ADC® Averaging Mode Technology™ (6022, 6023 models only)

- In ADC® Averaging Mode Technology™, three measurements are automatically taken in succession and the result then automatically analyzed and displayed. Because your blood pressure constantly fluctuates, a result determined in this way is more reliable than one produced by a single measurement.
- After pressing the On/Off/Start button the selected ADC® Averaging Mode Technology™ appears in the display as the symbol.
- The bottom right hand section of the display shows a 1, 2, or 3 to indicate which of the 3 measurements is currently being taken.
- There is a break of 15 seconds between the measurements (15 seconds are adequate according to “Blood Pressure Monitoring, 2001, 6:145-147” for oscillometric instruments). A countdown indicates the remaining time and a beep will sound 5 seconds before the 2nd and 3rd readings will begin.
- The individual results from measurements 1, 2 and 3 are not initially displayed.
- If you want to see each of the individual readings making up a triplicate reading, turn the unit off, then press and hold the Memory button for 3 seconds immediately after a ADC® Averaging Mode Technology™ measurement. Note: You can only see the individual readings one time immediately following an Averaging Mode measurement. See section 5.4 g.
- Do not remove the cuff between measurements.

5. Measurement Procedure

Note: You should always be seated before and during measurement.

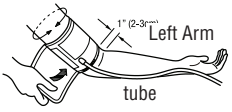
5.1. Before measurement:

- Avoid eating and smoking as well as all forms of exertion directly before measurement. These factors influence the measurement result. Find time to relax by sitting in an armchair in a quiet atmosphere for about ten minutes before taking a measurement.
- Remove any garment that fits closely to your upper arm.
- Always measure on the same arm (normally left).
- Always compare measurements taken at the same time of day, since blood pressure changes during the course of the day, as much as 20-40 mmHg.

5.2. Common sources of error:

Note: Comparable blood pressure measurements always require the same conditions! Conditions should always be quiet.

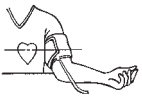
- All efforts by the user to support the arm can increase blood pressure. Make sure you are in a comfortable, relaxed position and do not flex any of the muscles in the measurement arm during the measurement. Use a cushion for support if necessary.



- If the arm artery lies considerably lower or higher than the heart, an erroneously high or low blood pressure will be measured! Each 15cm (6 inch) difference in height between your heart and the cuff results in a measurement error of 10 mmHg!
- Cuffs that are too narrow or too short result in false measurement values. Selecting the correct cuff is extremely important. Cuff size is dependent upon the circumference of the arm (measured in the center). The permissible range is printed on the cuff. If this is not suitable for your use, please call 1-800-232-2670.

Note: Only use approved ADC® cuffs!

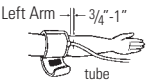
- A loose cuff or a sideways protruding air pocket causes false measurement values.
- With repeated measurements, blood accumulates in the arm, which can lead to false results. Consecutive blood pressure measurements should be repeated after a 1 minute pause or after your arm has been held up in order to allow the accumulated blood to flow away. If you decide to take your Averaging Mode measurement again, be sure to wait at least one minute beforehand.



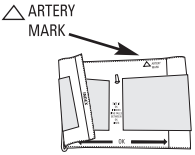
5.3. Fitting the rigid Cuff (6023 model only)

a) The cuff is pre-formed for easier use. Remove tight or bulky clothing from your upper arm.

b) Wrap the cuff around your upper left arm. The rubber tube should be on the inside of your arm extending downward to your hand. Make certain the cuff lies approximately 1/2" to 3/4" (1 to 2 cm) above the elbow.



Important! The red strip on the edge of the cuff (Artery Mark) must lie over the artery which runs down the inner side of the arm.



c) To secure the cuff, wrap it around your arm and press the hook and loop closure together.

d) There should be little free space between your arm and the cuff. You should be able to fit 2 fingers between your arm and the cuff. Cuffs that don't fit properly result in false measurement values. Measure your arm circumference if you are not sure of proper fit.

e) Lay your arm on a table (palm upward) so the cuff is at the same height as your heart. Make sure the tube is not kinked.

f) Remain seated quietly for at least two minutes before you begin the measurement.

Fitting the D-Bar Cuff (6021, 6022 models)

a) Pass the end of the cuff through the flat metal ring so that a loop is formed.

The hook and loop closure must be facing outward. (Ignore this step if the cuff has already been prepared.)

b) Place the cuff over the left upper arm so that the tube is closer to your lower arm.

c) Lay the cuff on the arm as illustrated. Make certain that the lower edge of the cuff lies approximately 3/4" to 1" (2 to 3cm) above the elbow and that the tube is closer to the inner side of the arm.

Important! The small white arrow (Artery Mark) on the cuff must lie exactly over the artery which runs down the inner side of the arm.

d) Tighten the cuff by pulling the end and close the cuff by affixing the hook and loop closure.

e) There should be little free space between the arm and the cuff. You should be able to fit 2 fingers between your arm and the cuff. Clothing must not restrict the arm. Any piece of clothing which does, must be removed. Cuffs that don't fit properly result in false measurement values. Measure your arm circumference if you are not sure of proper fit. Other size cuffs are available (Page 9).

f) Lay your arm on a table (palm upward) so the cuff is at the same height as your heart. Make sure the tube is not kinked.

g) Remain seated quietly for at least two minutes before you begin the measurement.

Comment: If it is not possible to fit the cuff to your left arm, it can also be placed on your right arm. However, all measurements should be made using the same arm. Comparable blood pressure measurements always require the same conditions (Relax for several minutes before taking a measurement).

Pumping Pressure

Measuring

5.4. Measuring procedure

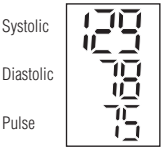
After the cuff has been appropriately positioned on the arm and connected to the blood pressure monitor, the measurement can begin:

a) Press the ON/OFF/START button. The pump begins to inflate the cuff. In the display, the increasing cuff pressure is continually displayed.

b) After automatically reaching an individual pressure, the pump stops and the pressure slowly falls. The cuff pressure is displayed during the measurement.

c) When the device has detected your pulse, the heart symbol in the display begins to blink and an audible pulse tone sounds.

d) When the measurement has been concluded, a long beep tone sounds. The measured systolic and diastolic blood pressure values, as well as the pulse are now displayed.



Measurement complete

e) The appearance of this symbol signifies that an irregular heartbeat was detected. This indicator is only a caution. It is important that you be relaxed, remain still and do not talk during measurements.

NOTE: We recommend contacting your physician if you see this indicator frequently.

f) The measurement results are displayed until you switch the device off. If no button is pressed for 1 minute, the device switches off automatically.

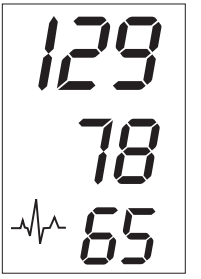
g) When the unit is set to the MAM setting, 3 separate measurements will take place in su ccession after which your result is calculated and displayed as a single, averaged measurement. There is a 15 second resting time in-between each measurement. A countdown indicates the remaining time and a beep will sound 5 seconds before the 2nd and 3rd readings will begin.

If one of the measurements causes an error message, it will be repeated one more time. If any additional error occurs, the measurement will be discontinued and an error code will be displayed.

Expanding the averaged measurement to see the three individual readings: This function allows you to view the three individual measurements used to calculate the ADC® Averaging Mode Technology™ measurement. After taking an averaging mode measurement turn unit off, hold the Memory button for 3 seconds until you hear a short beep. (Do not hold the button longer than 7 seconds or you will delete all the readings in the memory!) Let go of the button and watch the screen. It will automatically scroll through the three measurements used in the measurement.

5.5. Irregular Heartbeat Detector

This symbol - indicates that certain pulse irregularities were detected during the measurement. In this case, the result may deviate from your normal basal blood pressure – repeat the measurement. In most cases, this is no cause for concern. However, if the symbol appears on a regular basis (e.g. several times a week with measurements taken daily), we advise you to tell your doctor. Please show your doctor the following explanation:



Information for the doctor on frequent appearance of the Irregular Heartbeat Symbol

This instrument is an oscillometric blood pressure monitor device that also analyzes pulse frequency during measurement. The instrument is clinically tested.

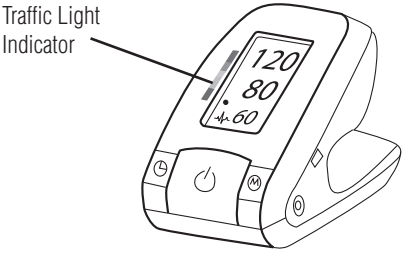
If pulse irregularities occur during measurement, the irregular heartbeat symbol is displayed after the measurement. If the symbol appears more frequently (e.g. several times per week on measurements performed daily) or if it suddenly appears more often than usual, we recommend the patient to seek medical advice.

The instrument does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage.

5.6. Traffic Light Indicator (6023 only)

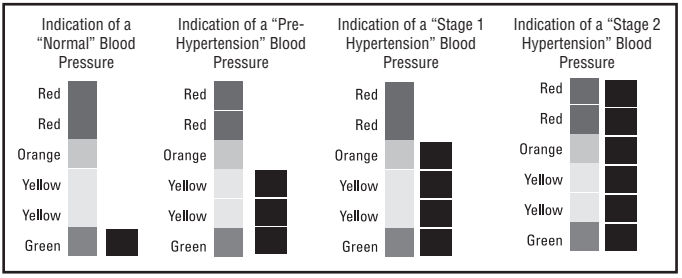
The dots on the left-hand edge of the display show you the range within which the indicated blood pressure value lies. Depending on the height of the dots the readout value is either within the normal (green), borderline (yellow) or danger (red) range.

The classification is based on standards established by the National Institutes of Health JNC7, 2003.



The traffic light dots rise according to your measurement.

- If your measurement has only one dot, your measurement is in the green zone, or "Normal" according to NIH standards.
- If your measurement has two or three dots, it is in the yellow zone, or "Pre-Hypertension" according to NIH standards.
- If your measurement has four dots, it is in the orange "Stage 1 Hypertension" zone.
- If your measurement has five or more dots, it is in the red "Stage 2 Hypertension" zone.



5.7. Memory

At the end of a measurement, this monitor automatically stores each result with date and time. Each unit stores 99 measurements. Models 6023 and 6022 store 99 measurements each, for 2 users.

Viewing the stored values

With the unit off, press the Memory button. The display first shows "A", then shows an average of all measurements stored in the unit. Please note: Measurements for each user are averaged and stored separately. Be certain that you are viewing the measurements for the correct user.

Pressing the Memory button again displays the previous value. To view a particular stored memory, press and hold the Memory button to scroll to that stored reading.

Memory full

When the memory is full to capacity, a new measured value is stored by overwriting the oldest value.

Clear all values

If you are sure that you want to permanently remove all stored values, hold down the Memory button (the instrument must have been switched off beforehand) for about 7 seconds, until "CL" appears and then release the button. If you do not want to clear the values, press the Start/ON/OFF button. To permanently clear the memory, press the Memory button while "CL" is flashing.

Individual values cannot be cleared.

5.8. Discontinuing a Measurement

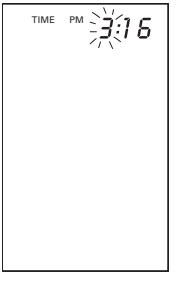
If it is necessary to interrupt a blood pressure measurement for any reason (e.g the patient feels unwell), the Start/ON/OFF button can be pressed at any time. The device then immediately lowers the cuff pressure automatically.

5.9. Setting the Medication Reminder (6023 only)

This instrument allows you to set two alarm times at which an alarm signal will then be triggered. This can be a useful aid, for instance as a reminder to take medication or to remind you to take your blood pressure at the same time each day.

a) To set an alarm time, press the Date/Time button (the instrument must have been switched off beforehand) and immediately afterwards the Memory button and hold both down until the bell symbol appears in the bottom left of the display. Then release both buttons. The flashing "1" in the display indicates that the first alarm time can now be set.

b) Press the Date/Time button to set the hour – the hour display flashes. Pressing the Memory button allows you to set the alarm hour. To confirm, press the Date/Time button



c) The minute display will now flash. The minutes can be set using the Memory button. To confirm, press the Date/Time button again.

d) The bell symbol will now flash. Use the Memory button to select whether the alarm time is to be active (bell) or inactive (crossed-out bell). To confirm, press the Date/Time button.

To set a second alarm time, proceed as above but if the "1" flashes, press the Memory button to select "2" and confirm with the Date/Time button.

- An active alarm time is indicated by the bell symbol in the display.
- The alarm sounds at the set time every day.
- To switch-off the alarm when it is sounding, press the START/ON/OFF button.
- To permanently switch-off the alarm, proceed as above (Steps a-d) and select the crossed-out bell symbol. This will then disappear from the display.
- The alarm times must be re-entered each time the batteries are replaced.

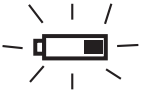
5.10. Battery Charge Indicator

Batteries almost discharged

When the batteries are approximately 75% used the battery symbol will flash as soon as the instrument is switched on (if at least one of the batteries still has some charge). Although the instrument will continue to measure reliably, you should obtain replacement batteries.

Batteries discharged– replacements required

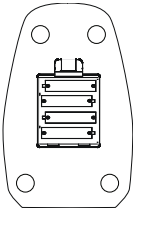
When the batteries are discharged, the battery symbol will flash as soon as the instrument is switched on. You cannot take any further measurements and must replace the batteries.



The battery compartment is located on the back side of the device (see illustration).

a) Remove cover from the bottom plate, as illustrated.

b) Insert the batteries (4 x size AA). Always use AA long life batteries or alkaline 1.5v batteries.



c) The memory retains all values although date and time (and possibly also set alarm times) must be reset - the year number therefore flashes automatically after the batteries are replaced.

d) To set date and time, follow the procedure described in Section 4.2.

Which batteries and which procedure?

Use four new, longlife 1.5V AA batteries. Do not use batteries beyond their expiration date. If the monitor is not going to be used for a prolonged period the batteries should be removed.

Using rechargeable batteries

You can also operate this instrument using rechargeable batteries.

- Only use "NiMH" reusable batteries!
- If the battery symbol (+ –) appears, the batteries must be removed and recharged! They must not remain inside the instrument, as they may become damaged through total discharge even when switched off. The batteries must NOT be discharged in the blood pressure monitor! If you do not intend to use the instrument for a week or more, always remove the rechargeable batteries!
- Recharge these batteries using an external charger and follow manufacturer's instructions carefully.

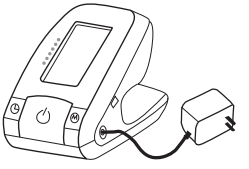
5.11. Using the AC Adapter

You may also operate this monitor using the AC adapter (output 6V DC/600 mA with DIN plug).

Use only the approved ADC® AC adapter to avoid damaging the unit.

a) Ensure that the AC adapter and cable are not damaged.

b) Plug the adapter cable into the AC adapter port on the right side of the blood pressure monitor.



c) Plug the adapter into your electrical outlet.

When the AC adapter is connected, no battery current is consumed.

Note: No power is taken from the batteries while the AC adapter is connected to the monitor. If electrical power is interrupted, (e.g., by accidental removal of the AC adapter from the outlet) the monitor must be reset by removing the plug from the socket and reinserting the AC adapter connection. If you have any questions regarding the AC adapter please call 1-800-232-2670.

6. Software Functions (6022, 6023 only)

This unit can be used in connection with your personal computer (PC) running the ADC® Advanced PC Link Software. Your PC will allow a capacity of monitoring 80 patients, each with 1000 records of data (Note: Overuse will lower system efficiency).The memory data can be transferred to the PC by connecting the monitor via the included USB cable with your PC. Note: The software does not work with Mac computers.

6.1. Installation and Data Transmission

a) Insert CD into CD ROM drive of your PC. The installation will start automatically. If not, click on SETUP.EXE.

b) Connect the monitor via USB cable with the PC. Three horizontal bars will appear on the display and last for 3 seconds.

c) The bars will then flash to indicate that the connection between computer and device is successfully made. As long as the cable is plugged, the bars will keep flashing and the buttons are disabled. During the connection, the device is completely controlled by the computer. Refer to the 'Help' file in the software for detailed instructions.

7. Error Messages/Troubleshooting

If an error occurs during a measurement, the measurement is discontinued and a corresponding error code is displayed. We recommend you switch the device off and take a new measurement making sure you allow time for relaxation (Example: err 3).

Error No.	Possible cause(s) / Solutions
Err 1	The tube may have loosened, or no pulse was detected. *Ensure cuff connections are tight with proper cuff placement. See Section 5.3
Err 2	Unnatural pressure impulses. Reason: The arm was moved during the measurement. Repeat measurement keeping arm still.
Err 3	Repeat measurement keeping arm still. If inflation of the cuff takes too long, the cuff is not correctly seated or the tube connection's not tight. Check connections and repeat.
Err 5	The difference between systolic and diastolic is excessive. Measure again carefully following proper cuff procedures and ensure measurement under quiet conditions.
HI	The cuff pressure is too high. Relax for 5 minutes and repeat the measurement.*
LO	The pulse is too low (less than 40). Repeat the measurement.*

***If this or any other problem occurs repeatedly, please consult your doctor.**

Other possible errors and their solutions

If problems occur when using the device, the following points should be checked:

Malfunction	Remedy
The display remains blank when the instrument is switched on although the batteries are in place.	• Check battery installation or AC adapter connection is correct and wall outlet is working. • If the display is blank, remove the batteries and then exchange them for new ones. Check polarity.
The pressure does not rise although the pump is running.	• Check the connection of the cuff tube and connect properly.
The device frequently fails to measure, or the values measured are too low or high.	• Ensure the cuff fits properly. (Section 5.3) • Before starting measurement make sure that the cuff is not too tight and that clothing is not exerting pressure on the arm. Take articles of clothing off if necessary. • Measure blood pressure again in complete peace and quiet.

Every measurement results in different values, although the device functions normally and normal values are displayed.	• Please read the following information and the points listed under “Common sources of error”. (Section 5.2) Repeat the measurement. • Blood pressure changes constantly. The observed readings may accurately reflect your pressure.
Blood pressure values differ from those measured by my doctor.	• Record daily values and consult your doctor. • Pressure readings in your doctor’s office may be higher due to anxiety.
After the instrument has inflated the cuff the pressure falls very slowly, or not at all. (No reasonable measurement possible).	• Check cuff connections. • Ensure the unit has not been tampered with.

8. Care and Maintenance

a) Do not expose the device to either extreme temperatures, humidity, dust or direct sunlight.
b) The cuff contains a sensitive air-tight bubble. Handle this cuff carefully and avoid all types of stress through twisting or buckling.
c) Clean the device with a soft, dry cloth. Do not use gas, thinners or similar solvents. Spots on the cuff can be removed carefully with a damp cloth and soapsuds. The cuff with bladder must not be washed in a dishwasher, clothes washer, or submerged in water.
d) Handle the tube carefully. Do not pull on it. Do not allow the tubing to kink and keep it away from sharp edges.
e) Do not drop the monitor or treat it roughly in any way. Avoid strong vibrations.
f) Never open the monitor! This invalidates the manufacturer’s warranty.
g) Batteries and electronic instruments must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

8.1. Accuracy test

Sensitive measuring devices must be checked for accuracy from time to time. We recommend a periodical inspection of your unit by an authorized dealer every 2 years. Call 1-800-232-2670 for more information.

9. Warranty

Your ADC® blood pressure monitor is guaranteed for 5 years against manufacturers’ defects for the original purchaser only, from date of purchase. The warranty does not apply to damage caused by improper handling, accidents, professional use, not following the operating instructions or alterations made to the instrument by third parties.

Warranty only applies to the instrument. All accessories including the cuff, AC adapter, software and USB cable are guaranteed for one year.

There are no user serviceable parts inside. Batteries or damage from old batteries is not covered by the warranty.

Note: According to international standards, your monitor should be checked for accuracy every 2 years.

10. Certifications

Device standard:

This device is manufactured to meet the European and United States standards for non-invasive blood pressure monitors:

EN1060-1 / 1995 • EN1060-3 / 1997 • EN1060-4 / 2004

AAMI/ANSI SP10

Electromagnetic compatibility:

Device fulfills the stipulations of the International standard

IEC60601-1-2

Clinical testing:

Clinical performance tests were carried out in the U.K. “Association Protocol and British HTP Protocol.”

The B.H.S. (British Hypertension Society) clinical protocol was used to measure the accuracy of this product. ADC® blood pressure units using the same measurement technology are graded “AA” for systolic/diastolic accuracy by independent investigators using the BHS protocol. This is the highest grading available for blood pressure monitors. Please see bhsoc.org for more information. (Uses the same algorithm as ADC® B.H.S. graded “AA” model number BP3BT0-A). US patents: 6,485,429 (Irregular Heartbeat Feature) - 6,447,457 (ADC® Averaging Mode)

11. Technical Specifications

Weight:	471.5 g (with batteries)
Size:	160 (W) x 140 (L) x 98 (H) mm
Storage temperature:	–20 to +50°C (-4°F - 122°F)
Humidity:	15 to 90% relative humidity maximum
Operation temperature:	10 to 40°C (50°F - 104°F)
Display:	LCD-Display (Liquid Crystal Display)
Measuring method:	Oscillometric
Pressure sensor:	Capacitive
Measuring range:	SYS/DIA: 30 to 280 mmHg
Pulse:	40 to 200 per minute
Cuff pressure display range:	0–299 mmHg
Memory:	Automatically stores the last 99 measurements for 2 users (total 198)
Measuring resolution:	1 mmHg
Accuracy:	Pressure within ± 3 mmHg / pulse ± 5 % of the reading
Power source:	a) 4 AA batteries, 1.5 V b) AC adapter 6 V DC 600 mA (voltage 4.5 V DC to 6 V DC)
Accessories:	Wide range rigid cuff 8.7” – 18.1” (22 - 46 cm)

Technical alterations reserved!

12. How to Contact Us

Toll Free Help Line: 1-800-ADC-2670
Email: info@adctoday.com

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